



Crayfish . . . Annoyance or Appetizer?



Missouri's 33 species of crayfish play a number of important roles in the aquatic communities of our ponds, lakes, and streams. They transform dead and decaying organic matter, such as leaves and wood, into an edible food source for many fish, insects, and other aquatic creatures. Crayfish are also a vital link in the food chain of Missouri's water bodies and it's surrounding forests, fields and floodplains. These small crustaceans are preyed upon by fish, insects, mammals, birds, reptiles, and amphibians. In fact, they make up more than 50%

of the diet of some of our most prized sport fish species.

Even though crayfish will provide many benefits to your pond and the wildlife in and around it, many pond owners wonder whether an abundance of crayfish will lead to an abundance of problems. Much folk lore has surrounded the introduction of crayfish to a pond. These stories range from the water turning murky to the dam collapsing. Some of these concerns are valid, others fall into the realm of mythology. Read on to discover which is which.

“I’ve found crayfish in my pond. Are they going to burrow into my dam until it collapses?”

Probably not, contrary to conventional wisdom, this is extremely unlikely. The Missouri Department of Conservation’s crayfish expert questioned crayfish biologists nationwide and they found little documentation of a dam being impaired by a crayfish population. While it seems obvious that crayfish could ruin a pond dam, this is generally an illusion. It is likely that this fear has been brought about by crayfish “chimneys”.

Crayfish that do burrow into the earth create a crown of earth surrounding the openings to their burrow. These “chimneys” may be the origin of the belief that the crayfish are harming the pond’s dam, since some species of crayfish build chimneys that can look quite impressive and give the impression that massive amounts of dirt are being moved. Fortunately, the amount of dirt displaced by a crayfish burrow is deceptive. Though the burrows seem extensive, most are straight tubes that penetrate only to water saturated soil and have no potential for structural damage. In fact, the *only* crayfish species in Missouri that creates burrows extensive enough to potentially weaken a pond dam is the red claw crayfish, native only to southeastern Missouri. Such potential problems may be minimized by avoiding the use of red claw crayfish in favor of the more popular virile crayfish or papershell crayfish.

“Since the crayfish moved into my pond, the water has become muddier. Is this going to ruin my pond?”

Not necessarily. While it may not be aesthetically pleasing, a slight muddying of the water in a pond may not reduce the quality of the fishery. Since crayfish forage on the bottom of the pond they stir up silt as they feed. This may result in a slight darkening of the water, but usually not enough to inhibit fish feeding or cause any other problems.

If murkiness is perceived to be a problem, then the crayfish are probably too abundant. Pond owners will need something to manage the crayfish population. Stocking a few adult predatory fish will usually bring the population under control.



Do crayfish in a pond provide any benefit?

Certainly! Crayfish are a tremendous prey item for many animals. They have been documented as a food source for more than 212 different animal species including many of Missouri’s sport fish. Crayfish “clean” the pond basin of rotting matter and convert that rotting matter into meat that can be devoured by the creatures that prey on them. This provides for a healthier pond and more wildlife. Some crayfish species also feed on submerged plants and can assist in controlling their abundance.

The benefits of crayfish are not limited to the pond basin. Private pond favorites such as largemouth bass and channel catfish prey heavily on crayfish. As these sport fish become accustomed to a steady diet of crayfish they grow larger and gain weight. Crayfish are the driving force behind some of Missouri’s fisheries, turning dead and decaying plant material into food sport fish can thrive on. These sport fish also become more vulnerable to crayfish-mimicking baits and ultimately easier for the ambitious angler to catch.

Sport fish are not the only ones that can appreciate how tasty a crayfish can be. Crayfish are also a very tasty food source for humans. There are many excellent recipes that can turn your lowly Missouri crawdad into an Atlantic lobster’s rival. In a healthy Missouri pond, it is possible to harvest the largest individuals in a population, even on a continual basis, and provide several gourmet meals each year. This can be done without damaging the overall population or depriving your sport fish of a meal.

**I wish there weren't so many crayfish in my pond.
How can I remove them?**

There are several methods of reducing the number of crayfish in your pond, but few if any ways to totally eliminate them. This is just as well, since totally removing the population is likely to reduce the quality of your fishery. If total removal is a must, then renovation of the entire pond is your only recourse, though even this drastic action will guarantee crayfish removal for only one season. Crayfish are capable of traveling over land and once your pond has refilled odds are they will repopulate it. There are two basic philosophies you may follow when approaching your population management efforts and a third one that is strongly advised against.

#1 Biological Controls

Biological control refers to any methods that employ other animal life to either eat or compete with the target population. This is the easiest method for managing crayfish in ponds, and should usually be the first method employed. Largemouth bass, channel catfish, and other sport fish will eat large numbers of crayfish. In most instances, a healthy fishery, along with help from bullfrogs, snapping turtles, herons, raccoons, and other amphibious, terrestrial, or avian predators will be sufficient to keep the crayfish population in control, though never completely eliminated.

Most of these predators are sight feeders and a certain degree of water clarity will be required for this method to be most efficient. If your pond doesn't have this clarity you can either begin practices to improve it or try mechanical control methods. You may obtain an Aquaguide on water clarity from your local Missouri Department of Conservation office or on the web at, www.mdc.mo.gov.

#2 Mechanical Control

Methods that require traps or physical manipulation of the pond environment are referred to as mechanical controls. Though rather drastic, some success can be achieved by completely draining the pond. Unfortunately this process eliminates every other aquatic organism in the basin and provides no guarantee that the crayfish won't return as soon as the water does.

As long as the possession limits and gear restrictions of the Wildlife Code are observed seines can be employed in shallow ponds free of obstacles. A seine can remove large numbers of crayfish very quickly, but it is highly unlikely that all the crayfish will be removed and just a few crayfish will allow the population to recover. Crayfish reproduce very quickly and have the ability to rebound from harvest at an astounding rate.

Baited traps will catch many crayfish and will control but not eliminate the population. Simple wire minnow traps purchased from discount or tackle stores work well, though you will want to be sure the trap conforms to the Wildlife Code of Missouri by having an opening that must not exceed one and one half inches by eighteen inches. Traps may be baited with fish, meat, canned dog food, or many other proven baits. Baits can be wrapped in cheesecloth, or placed in small plastic canisters that have been perforated to allow the scent to escape. String or rope should be used to attach the trap to the shore. Leaving the trap in one place seems to work well. Checking it daily is the minimum allowed by the Wildlife Code, though checking more often is important if you plan on eating the crayfish. The longer you leave crayfish in a trap, the more cannibalism will occur.

#3 Chemical Control

Many people are tempted to try chemical control of crayfish. It is important to note that there are no pesticides that are approved for control of crayfish. Also, there are no pesticides that are specific to crayfish. This means that if any pesticides are applied to the pond it is very likely that more organisms will be killed than those targeted. Most of these other organisms are valuable to the balance of the pond environment and the fishery. The Missouri Department of Conservation does not recommend the use of chemical control for crayfish.

I like a good crawdad boil and wouldn't mind bigger fish in my pond. Can I add crayfish to my pond?

Any individual may stock their private pond with crayfish from a legal commercial dealer as long as those crayfish are a species that appears on Missouri's Approved Aquatic Species List. At present, there are four crayfish species on the list: virile (or northern) crayfish, papershell crayfish, red swamp crayfish, and white river crayfish.

The Missouri Department of Conservation strongly recommends that pond owners use either the virile (or northern) crayfish or papershell crayfish for stocking. Both species are hardy, reproduce quickly and are already widespread throughout the state. Neither the virile or papershell crayfish require any special habitat to reproduce. Adult females produce hundreds of eggs each breeding cycle. This gives them the ability to very quickly generate a harvestable population. In most small ponds the owner can be harvesting large virile crayfish in the numbers necessary for a meal within three years of stocking and continue to harvest them at that rate indefinitely.

I had crayfish at a restaurant and they were great! Can I do that with crayfish from my pond?

You bet! Missouri's wild crayfish are no different than those found in restaurants. There are endless, fine recipes that use crayfish in very creative ways, but simple is usually the best way to begin.

Capture approximately 12 medium crayfish for each person you plan to feed and place them in a container of clean, cool water overnight. This will purge their system of any muddy taste and maximize their fine flavor. The following day, steam or boil them in a pot. If you use any one of several commercially-available packets of crawfish or seafood boil spices they will provide instructions about the amount of water and cooking time. Peel the shell off of the tail meat and dip them in melted butter. Pop them in your mouth and you're enjoying Missouri freshwater lobster!

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